Performance Expectations and Behavior in Small Groups*

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It is generally found that power and prestige in small, task-oriented groups are unequally distributed, and these unequal distributions of power and prestige determine inequalities in rates of participation, in the distribution of rewards and evaluations, and in the amount of influence members have over decisions. In this paper we present a theory that accounts for the relation between power and prestige and these behaviors and we describe the results of an experimental test of part of that theory.

Using structured observation of experimental ad hoc discussion groups, the members of which were presumed initially to be status equals, Bales and his associates (Bales, et al., 1951, Bales, 1953, Bales and Slater, 1955, and Heinecke and Bales, 1953) found that marked inequalities develop over time in the rate at which members are observed to initiate action. Further, they found that those who initiate action most frequently tend to be ranked highest on the criteria of "best ideas" and "guidance" and tend to receive actions from others at the highest rate. If we assume (a) that a high ranking on "best ideas" reflects having made a large number of positively evaluated contributions during the discussion, (b) that a high ranking on "guidance" reflects, at the least, having been highly successful in influencing decisions, and (c) that a high rate of interaction initiated reflects a high number of socially distributed opportunities to initiate interaction, we can speculate that the following are true: over a period of time in task-oriented groups, the members of which begin as status equals, inequalities develop in the rate at which members initiate action, in the rate at which members are

given the opportunity to initiate action, in the amount of influence that members exercise, and the likelihood that contributions will be positively evaluated by other members; and all of these are positively correlated with one another.

Regularities similar to the above were found by Norfleet (1948) in her examination of adult discussion groups which met together over a period of three weeks. Ratings, by the members, of those individuals seen as having contributed most to the "productivity" of the group, became concentrated with a high degree of agreement, on a few individuals. Further, those who were rated as the best contributors also tended to be high on both initiation and receipt of interaction. Following the line of reasoning given above, we can speculate that through time those individuals whose contributions were more positively evaluated were increasingly given more opportunities to initiate action and, in fact, did initiate more action.

A second group of studies has documented the relationship of the power and prestige order to expectations for performance on a group task. Harvey (1953) has reported that, among groups of adolescents where a power and prestige order already existed, expectations for performance held by each individual for himself and by the group for each individual on a dart throwing task tended to coincide with the existing power and prestige order (that is, those rated higher in power and prestige were predicted to score higher than those lower in power and prestige). In a similar study, using boys attending a summer camp, Sherif, White, and Harvey (1955) found tha evaluations of immediate past performance on a handball

throwing task also tended to correlate with an existing power and prestige order. In his classic participant observation study of the Norton Street gang, Whyte (1943) asserted that power and prestige in the gang were a direct function of the individual's ability to perform well in the activities valued by the group (such as fighting, bowling, or arguing), and that once a power and prestige order developed it tended to be self-maintaining in the sense that actual performance even on new activities was determined by the power and prestige order. It seems reasonable to assert, then, that, in many settings, differential expectations for task performance are associated with the power and prestige order.

We believe that the relationship between power and prestige orderings and participation rates, distribution of rewards and evaluations, and amount of influence that individuals possess is in fact due to a relationship between expectations for task performance and these same behaviors. We next present a set of axioms which specify this relationship.

The Theory

We will restrict our attention to a situation in which two or more individuals are engaged in the joint solution of some task, T. We assume that their efforts have only two outcomes -- success or failure -- and that the individuals in the group are committed to successfully completing the task. We assume further that there is some particular ability directly associated with the successful completion of T. We will speak of task ability by referring to the performance expectations associated with the ability. A performance expectation is an anticipation by a group member

of the quality of his own or some other's performance. We assume that performance expectations can have two values, high (+) and low (-). Thus, if an individual held high expectations for himself and low expectations for another individual, he would anticipate that his own performance would be of high or superior quality and that the other's performance would be of low or inferior quality.

We will analyze the interaction which occurs in the above situation with the following set of concepts. First, we define an action opportunity as a socially distributed chance to perform (as when x is asked a question by y). An action opportunity may be a request for a particular kind of act by another, such as a request that he evaluate an idea, or it may be a non-specific request for whatever kind of act or acts the receiver deems appropriate. A performance output is a problem solving attempt by some group member (as when x presents an idea in a group discussion). A reward action is an action which communicates the acceptance or rejection of performance outputs. Reward actions may be thought of as communicated evaluations and, like performance expectations, will have two values, positive (+) and negative (-).

Action opportunities, performance outputs, and reward actions are all observable behaviors. Two other major concepts employed are distinguished by being unobservable. The first is that of a unit evaluation, a momentary evaluation of a person or of a unit performance of a person. Unit evaluations may be either positive (+) or negative (-). The second concept is acceptance of influence, the change or formation of a unit

evaluation of a performance output in response to the unit evaluation of that same performance output by another. These unobservable concepts will operate with the concept of a performance expectation as hypothetical or explanatory concepts in the theory.

The first axiom of the system specifies two consequences of differences in performance expectations--that group members are more likely to give opportunities to perform to those who are expected to perform well, and that the performance output of a person for whom high expectations are held is more likely to be favorably received than one from a person for whom low expectations are held regardless of the content of the performance output.

Axiom 1 (Inequality Axiom). Suppose that expectations held for person p are greater than those held for person o. Then, (a) p is more likely than o to receive an action opportunity, (b) p's performance outputs are more likely than those of o to be evaluated positively.

Axiom 2 specifies the consequences of expectation equalities for action opportunities and performance evaluations. Equalities are not treated in detail here and Axiom 2 is included for completeness.

Axiom 2 (Equality Axiom). Suppose that expectations held for p are the same as those held for o. Then, any individual when giving action opportunities and making performance evaluations will, in the absence of factors other than performance expectations, be indifferent between p and o.

Axiom 3 expresses the relationship between the two kinds of unit evaluations: those of persons and those of performances. The principle involved states that momentary evaluations of persons (such as when x says, "Y is right") are determined by momentary evaluations of performance

outputs (such as when x says, "That suggestion is good"), and vice versa. In the latter instance (evaluations of persons determining evaluation of performances), the quality of performance is judged by reference first to some quality of the person. For example, if p is more competent at the task than o, then o may at times reason that "p is probably right; hence his idea is probably a good one."

Axiom 3. Unit evaluations of persons occur if and only if unit evaluations of the performances of those persons occur.

Axiom 4 expresses the commonsense relationship between receiving action opportunities and making performance outputs. It states simply that, when a person is asked to contribute to the completion of the task, he will make a contribution. This is undoubtedly too strong a statement of this relationship, but it will be used as a first approximation.

Axiom 4. If p is given an action opportunity specifying a performance output, he will accept it.

Axiom 5 is included as a more formal statement of the relationship between evaluations and rewards. We stated previously that reward actions are "communicated evaluations." However, evaluations per se are communicated only if acceptance or rejection of performance outputs occurs as a result of unit evaluations. We assume here that reward actions are given only as an expression of true evaluations of performance.

Axiom 5. Reward actions occur if and only if unit evaluations of performances occur.

Some relationship exists between the values of unit evaluations of persons and performances and of reward actions. The simplest assumption will be made, namely, that for those unit evaluations and reward actions linked by Axioms 3 and 5, all three values will be the same.

Axiom 6. The values of a unit evaluation of a person, unit evaluation of his performance, and reward actions directed to him are always identical.

The final axiom concerns the formation of performance expectations when group members are ignorant of each other's task ability. The process involved has been explicated in more detail in Berger, et al. (1966). It suffices for our purposes here to state that performance expectations form as a generalization from unit evaluations of persons. Thus, for example, from saying, "I was right and he was wrong," on some particular occasion, an individual may conclude, "I am better at this than he is." This is equivalent to saying that unit evaluations of persons are necessary, but not sufficient, for performance expectations to form.

Axiom 7. If and only if p assigns unit evaluations to persons does the possibility exist for him to form performance expectations?

As examples of how the axioms can be used, we will derive from them two of the generalizations stated in the beginning of the paper. We first consider the differential rates of participation found by Bales and Norfleet. To explain this finding we derive the statement that if p is more competent than o then he will make more performance outputs than o. It follows directly from the following two statements: assuming p more competent than o

1. p will be given more action opportunities than o. [part (a) of Axiom 1]
2. p will always accept those action opportunities specifying a performance output. [Axiom 4]

We next consider the assertion that differences in power and prestige lead to differences in the distribution of rewards. The equivalent statement using the concepts of the theory is that if p is more competent than o then he will receive more positive reward actions

than o. We can derive it from the following three statements: assuming p more competent than o

1. p's performances are more likely to be positively evaluated. [Part (b) of Axiom 1]
2. Reward actions expressing positive evaluations are positive. [Axiom 6]
3. Reward actions will occur if performance evaluations occur. [Axiom 5]

The nature of the derivations will differ depending upon which process one wishes to focuss upon. For example, suppose for some reason, perhaps experimental control, that p and o's performances are equally likely to be positively evaluated. Then we could still derive the statement that p will recieve more positive reward actions by replacing statement 1 in the second derivation above with the statement that p will make more performance outputs. This illustrates that there are several processes involved in producing the inequalities we have discussed and one of the functions of an axiom system such as this one is to separately specify these processes.

The Experiment

We will present experimental evidence in support of the assertion that the greater the expectations held for o relative to p, the more likely is p to accept influence from o. As indicated above, performance expectations can influence acceptance of influence in several ways, all of which are consistent with the axioms. For example, one of the simpler processes is that those who are most competent are given the most

opportunities to express performance evaluations, hence exercise more influence. We will focus upon another process--the direct effect of performance expectations upon acceptance of influence. It will be assumed that neither differential giving of action opportunities nor differential making of performance outputs are contributing to the process and it will be asserted, based on part (b) of Axiom 1, that p's performances, compared to o's, are more likely to be re-evaluated positively the more competent he is relative to o.

The separate examination of the various processes that lead to the one result of interest is made possible by the construction of a standardized experimental situation in which all of the concepts of the theory have been operationalized and in which we can control the occurrence of any one or more of the concepts. In the case being considered, we controlled the occurrence of both action opportunities and performance outputs, manipulated performance expectations, and observed acceptance of influence.

The experiment consisted of two parts called phase I and phase II. Two subjects participated in each experiment. In phase I they were both publically given fictitious scores on a test which was purported to measure their ability at the phase II task. This was the manipulation of performance expectations. In phase II they were required on repeated occasions (i.e., trials) to select one of two alternatives as the correct answer to a word association problem. The selection of a correct answer had two stages. Every time a subject was presented with a set of alternatives, he first made a preliminary selection and exchanged

information with his partner as to which alternative each initially selected. The subjects could not verbally communicate nor even see each other but indicated their choices to the experimenter and each other using a system of lights and push-button switches. Following the initial choice, each made a private final choice taking the information he had received from the other into account. The purpose of this initial choice-final choice sequence was defined as seeing how well they worked together "as a team". They were told, moreover, that their final decision would be evaluated in terms of a "team score." The team score was simply the sum of the number of "correct" final decisions which each made with no record kept of the relative contribution of each. The requirement that subjects make a communicated initial choice is equivalent to their having been given a mandatory action opportunity, and the choice itself constitutes as performance output. Thus action opportunities could not be unequally distributed nor could a subject decline to make a performance output.

To create the possibility for each subject to accept influence from the other and to standardize conditions, the experimenter controlled the exchange of initial choice information. Except for three trials of the total of twenty-five (6,13,20), the subjects were led to believe that they initially disagreed. They had to decide each time whether "he's right and I'm wrong," which would be a change of evaluation and hence acceptance of influence, or whether "I'm right and he's wrong," which would be non-acceptance of influence.

The phase II task problems consisted of sets of words such as the one shown below.

YESTERDAY

(A)	(B)
TA-KIU	TU-SAK

Subjects were instructed that the non-English words in the bottom row were phonetic spellings from a language unknown to them but that one of the words had the same meaning as the English word given. They were told that by comparing the sounds of the non-English words with the meaning of the English word they could decide which word was correct. The ability to do this was called "Meaning Insight Ability." Both the ability and the language, of course, were fictitious. Subjects were shown a total of twenty-five different word sets.

Each words set was selected, on the basis of a pretest, so as to represent as ambiguous a choice as possible. Only those word sets which elicited selection of one alternative 40-60% of the time when shown to 100 pretest subjects were used in the task sequence. The order of presentation of the word sets was randomized.

The manipulation of competence at "Meaning Insight," hence the manipulation of performance expectations, was accomplished in phase I by showing the subjects a series of twelve word sets very similar to those described above. In each of these word sets the role of the English and non-English words was reversed as in the example Below.

LU-BOYEL

(A)	(B)
LOVE	SOFTNESS

Subjects were given fictitious scores for their choices on those twelve word sets. Their scores were interpreted to them as representing rare occurrences and as being either superior or poor, so that each subject was led to believe either that he was exceptionally good or exceptionally bad, and either that his partner was exceptionally good or exceptionally bad. Hence, there were four performance expectation conditions--

(a) high self, low other
(b) high self, high other
(c) low self, low other
(d) low self, high other

It was predicted that the rate of acceptance of influence would be greatest in condition (d), least in (a), and that conditions (b) and (c) would have the same rate.

The subjects were 161 Stanford University undergraduates who volunteered from various university classes. They were paid $1.25 for participating. Forty-three were eliminated from the analysis for becoming suspicious of one or more of the deceptions in the experiment. The remaining subjects were distributed in conditions as follows:

(a) 28
(b) 32
(c) 31
(d) 28

Table 1 presents the mean proportion of final choices, for all trials, where subjects in each condition declined to accept influence (i.e., their final choice was the same as their initial choice).

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[Table 1 about here]

It is clear that the data confirm the order predicted by the theory and that those who were expected to perform relatively better decline to accept influence more.

The above ordering also holds true throughout the series of trials. Chart 1, shown below, is a graph of the proportion of non-acceptance of influence for blocks of three trials.

[Chart 1 about here]

The rates for all conditions are constant, they never overlap [except, of course, for (b) and (c)], and the ordering is as predicted. It is especially interesting to note how similar conditions (b) and (c) are. The curves very clearly indicate that only relative, no absolute, performance expectations affect acceptance of influence.

Summary

We began this paper with some speculations from the literature that power and prestige orderings in small groups are related to participation rates, distributions of rewards and evaluations, and to exercise of influence. We formalized these speculations in a set of Axioms which describe the process of problem solving interaction in small groups. Experimental evidence was presented which confirms one derivation--that a person expected to perform well relative to another person will accept influence less than if expected to perform relatively poorly.

What remains to be done is to gather additional evidence for other derivations from the theory or for other statements in the theory. The experimental situation described can be easily modified to carry out such experiments. In addition to providing evidence for the theory, it is hoped that the experiments will lead to refinement of the theory and more precise statements of the Axioms.

Condition	Proportion	Number
high self, low other	.78	29
high self, high other	.67	31
low self, low other	.65	32
low self, high other	.44	28

Table 1

Proportion of final choices where
subjects declined to accept influence

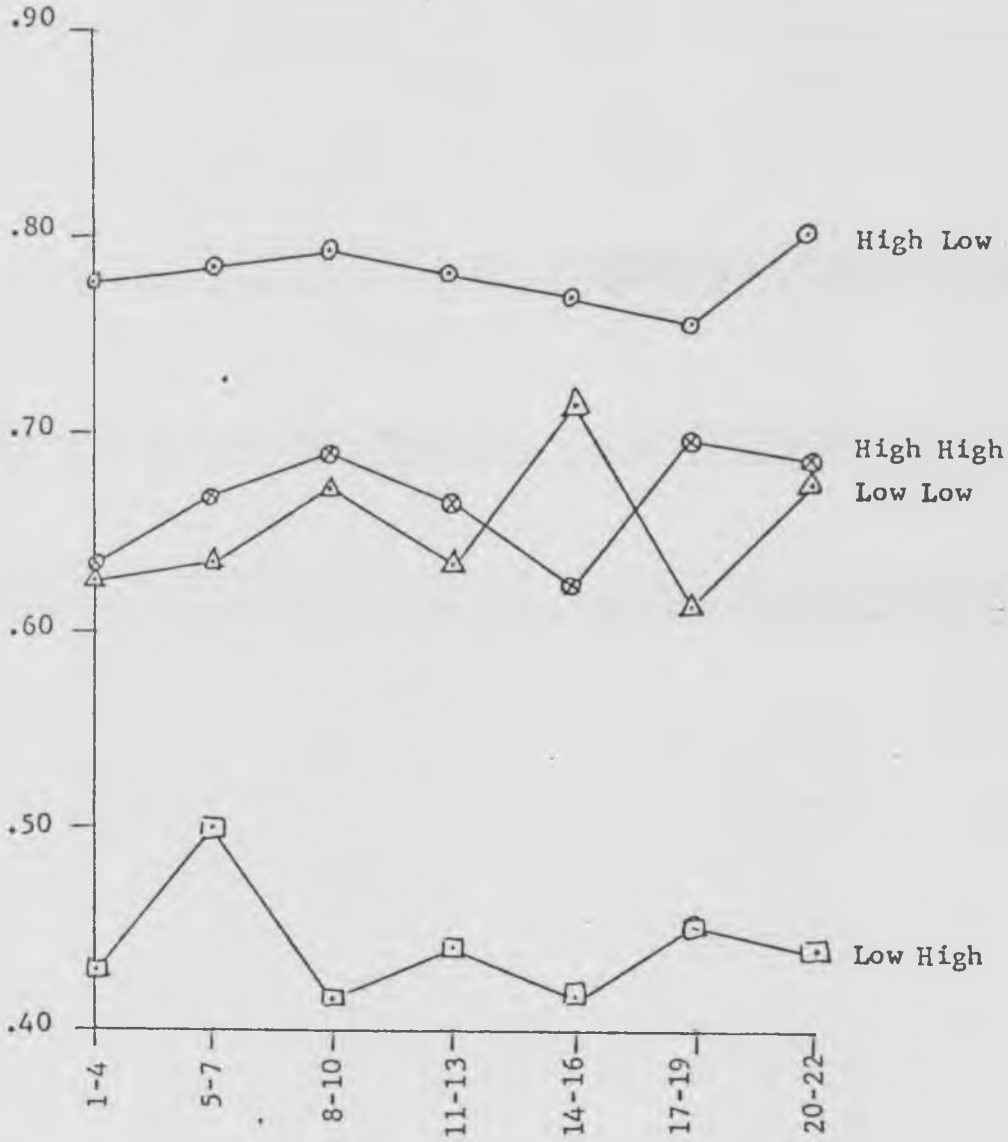

Chart 1. Proportion of non-acceptance of influence for blocks of three trials